

REMARKS

Claims 1, 3, 7-15, 17-22, and 24-46 are currently pending.

The remarks below are in response to the Office action mailed September 17, 2008

Initial Statement

During prosecution of the present application, a final Office action dated November 28, 2007 was issued rejecting the claims pending at that time as either being anticipated or obvious in view of Suzuki et al., as solely being obvious in view of Suzuki et al., or as being obvious in view of Suzuki et al. in view of Carlucci - virtually the exact same rejections being made in the most recent Office action mailed September 17, 2008. Indeed, a comparison of the present Office action to the final Office action of November 28, 2007 reveals that the current rejections are substantially identical to those made previously.

It is noted, however, that a number of the claims that are now of record in the application were not of record at the time of the final Office action and have not been examined in the Office action of September 17, 2008. Claims 44-46 were not of record at the time of the final Office action, but were of record before the Office action of September 17, 2008. Grounds for the rejection of Claims 44-46 have not been provided in the Office action of September 17, however, the claims were listed as being rejected on the Office Action Summary.

More notably, though, is that in response to the final Office action of November 28, 2007, applicants amended

claims 1, 17, 30, 41, 42, and 43 to incorporate features which the examiner indicated in a telephone interview of December 17, 2007 would likely overcome the pending rejections based on the cited references. Applicants explained why such amendments overcame the pending rejections and concurrently submitted a Request for Continued Examination with their amendment on February 25, 2008.

The Office action of September 17, 2008, fails to acknowledge the amendments made to the claims in the amendment of February 25, 2008, and likewise fails to address or even acknowledge the arguments presented by applicants as to why the pending claims were allowable over the cited references.

Thus, the present Office action takes a step backwards in prosecution, instead of advancing prosecution. This is respectfully submitted to be an inefficient use of USPTO and applicants' resources. Specifically, the present Office action is nearly identical to that made prior to the amendments that were previously made to the claims. Moreover, the present Office action does not even allege that the cited art discloses the features that were previously added in applicants' amendment of February 25, 2008 in the present application.

Nonetheless, applicants have addressed the present Office action and offer the following remarks.

I. Status of the Claims

No amendments have been made in this response. Accordingly, claims 1, 3, 7-15, 17-22, and 24-46 are currently under consideration. Applicants note the Office's acceptance of their traversal of the restriction and election of species in the office Action of May 15, 2008.

II. 35 U.S.C. 102/103 Rejections

1. Reconsideration is requested of the rejection of claims 1, 3, 9, 11-15, 17, 20-22, 24-26, 28, 29, and 38-43 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Suzuki, et al. (JP 2003-033381). Applicants note that while claims 11 and 12 were listed in the heading of the rejection, grounds for their rejection were not provided in the rejection.

A. The Claimed Subject Matter

The present application is directed to an absorbent structure including one or more layers having differential swelling characteristics, which through controlled curvature can transform a flat planar material into one having desired shaping (paragraph [0001]). More specifically, the present application is directed to an absorbent structure that expands to a greater extent along one surface than along an opposite surface when in the presence of liquid. The more

expandable surface causes an increase in concavity in the X-Y plane of the structure, with the concavity being in the direction of the less expandable surface (see, e.g., paragraphs [0008] and [0051]). More particularly, claim 1, from which claims 3, 7, and 9-15 depend, is directed to a single-layer absorbent structure that comprises (emphasis added):

a first surface opposite a second surface, wherein the single-layer absorbent structure **lies flat in a dry state** and expands along the second surface in the presence of a liquid so that the first surface increases concavity, wherein a pocket-like shape is formed in the presence of the liquid, the single-layer absorbent structure expands to a lesser extent along the first surface than the single-layer absorbent structure expands along the second surface in the presence of the liquid, the single-layer absorbent structure has a fluid intake rate of about 0.5 cubic centimeters per second or greater, and the single-layer absorbent structure has a thickness of about 10 millimeters or less in a dry state.

Claim 17, from which claims 20-22, 24-26, 28, and 29 depend, is directed to an absorbent structure comprising (emphasis added):

a body side liner;
an outer cover; and

an absorbent structure comprising **polyurethane foam** and having a basis weight between about 50 and about 1000 grams per square meter positioned between the body side liner and the outer cover, wherein the absorbent structure includes a first surface opposite a second surface, the second surface of the absorbent

structure is bonded to the outer cover, the absorbent structure expands along the second surface in the presence of a liquid so that the first layer increases concavity, wherein a pocket-like shape is formed in the presence of the liquid, the absorbent structure expands to a lesser extent along the first surface than the absorbent structure expands along the second surface in the presence of the liquid, and the absorbent structure has a fluid intake rate of at least about 0.5 cubic centimeters per second or greater.

Claim 30, from which claims 38-40 depend¹, is directed to an absorbent article comprising (emphasis added):

a body side liner;

an outer cover; and

an absorbent structure comprising **polyurethane foam** and having a basis weight between about 50 and about 1000 grams per square meter positioned between the body side liner and the outer cover, wherein the absorbent structure includes a first surface opposite a second surface, the second surface of the absorbent structure is bonded to the outer cover, the absorbent structure expands along the second surface in the presence of a liquid so that the first layer increases concavity, wherein a pocket-like shape is formed in the presence of the liquid, the absorbent structure expands to a lesser extent along the first surface than the absorbent structure expands along the second surface in the presence of the liquid,

¹ Applicants respectfully note that claim 30, from which claims 38-40 depend, has not been rejected under 102/103 over Suzuki, et al. As such, claims 38-40 are patentable over the Suzuki, et al. reference for the same reasons as claim 30. Applicants assume that this was a typographical error and, as such, will address claim 30 with regard to the instant rejection.

and the absorbent structure has a fluid intake rate of at least about 0.5 cubic centimeters per second or greater.

Claim 41 is directed to a single-layer absorbent structure comprising (emphasis added):

a first surface opposite a second surface, wherein the absorbent structure **lies flat in a dry state** and expands along the second surface in the presence of a liquid so that the first surface increases concavity, wherein a pocket-like shape is formed in the presence of the liquid, the single-layer absorbent structure expands to a lesser extent along the first surface than the single-layer absorbent structure expands along the second surface in the presence of the liquid, the single-layer absorbent structure has a fluid intake rate of about 0.5 cubic centimeters per second or greater, and at least one of the first and second surfaces undergoes anisotropic expansion in the presence of the liquid.

Claims 42 is directed to an absorbent structure comprising (emphasis added):

a first layer having a basis weight between about 10 and about 150 grams per square meter that expands less than 10% in the presence of a liquid; and

an absorbent second layer comprising **polyurethane foam** and bonded to the first layer, wherein the absorbent second layer expands at least 20% in the presence of the liquid so that the second layer increases concavity, wherein a pocket-like shape is formed along an interface of the first and second layers in the presence of the liquid, and the absorbent structure has a fluid intake rate of about 0.5 cubic centimeters per second or greater measured using the Fluid Intake Rate Test.

Claim 43 is directed to an absorbent structure comprising (emphasis added):

a first layer that expands less than 10% in the presence of a liquid; and

an absorbent second layer comprising **polyurethane foam** and bonded to the first layer, wherein the absorbent second layer expands at least 20% in the presence of the liquid so that the second layer increases concavity, wherein a pocket-like shape is formed along an interface of the first and second layers in the presence of the liquid, the absorbent structure has a fluid intake rate of about 0.5 cubic centimeters per second or greater, and only one of the first and second layers is elastomeric.

B. Suzuki, et al.

Suzuki, et al. is directed to a sheetlike absorption body having recessed and protruding parts and a self three-dimensionalizing function, which forms the recessed and protruding parts having a step between the recessed and protruding parts of 2A mm after absorbing water, when the step between the recessed and protruded parts is A mm when in a dry state. Specifically, the absorption body includes a P sheet made from nonwoven fabrics, cotton fabrics, and the like bonded to a Q sheet made from a nonwoven fabric. In one embodiment, the P sheet further includes superabsorbent polymers. Upon being wetted with water, the P sheet expands, thereby forming a concavo-convex structure.

Notably, however, with respect to claims 1 and 41, Suzuki, et al. fail to disclose an absorbent structure that **lies flat when in a dry state**. Applicants note that, in the Interview Summary dated December 26, 2007, the Office stated that Suzuki, et al. show that prior to expansion, their article does not have any concavity, and is thus flat. Applicants respectfully disagree.

Specifically, as used in the instant specification, the absorbent structure is a **flat planar material** in the dry state (see, e.g., page 1, paragraph [0001]). Furthermore, as defined by Merriam-Webster, "flat" refers to a material that has "a continuous horizontal surface; being or characterized by a horizontal line or tracing **without peaks or depressions** (emphasis added); having a relatively smooth or even surface."² Furthermore, "planar" is defined as "of, relating to, or lying in a plane; two-dimensional in quality"³, and "plane" is defined as "a surface in which if any two points are chosen a straight line joining them **lies wholly in that surface**."⁴

By contrast, however, as shown in the Drawings, the P sheet in Suzuki, et al. has **one or more crevices** (i.e., peaks and or depressions) in the dry state⁵, which are formed by standing/folding the ends of the P sheet and Q sheet up in the vertical direction (see, e.g., Drawings 8 and 10), or by joining the P sheet and Q sheet intermittently (see, e.g., Drawings 6 and 12). Furthermore, as taught in Suzuki, et al. at paragraph [0025], the sheet-like absorbent is characterized in that the thickness in the dry state is 2.0 mm or less, suitably 0.2 mm to 2.0 mm.⁶ No where in Suzuki, et al., is it disclosed or taught that in one embodiment, its sheet-like absorber does not have at least one crevice (i.e., is a **flat, planar material**), as required in Applicants'

² Merriam-Webster Online, available at <http://www.merriam-webster.com/dictionary/flat>.

³ Id., available at <http://www.merriam-webster.com/dictionary/planar>.

⁴ Id., available at <http://www.merriam-webster.com/dictionary/plane>.

⁵ See e.g., Suzuki, et al. at Drawings 2, 4, 6, 8, 10, and 12.

⁶ See Suzuki, et al. at paragraph [0025], wherein the sheet-like absorber forms crevices characterized in that "the level difference (A) of the

claims 1 and 41. As such, Suzuki, et al. fail to teach each and every element of Applicants' claimed invention, and thus, cannot be said to anticipate Applicants' claims 1 and 41 under 35 U.S.C. §102(b).

In the alternative, it would not be obvious to modify Suzuki, et al. to arrive at an absorbent substrate that lies flat in the dry state as required in Applicants' claims 1 and 41. Specifically, as noted above, nowhere in Suzuki, et al. is it taught or suggested to form a flat, (e.g., planar) sheet-like absorber. More particularly, as suggested in Suzuki, et al., the crevice functions as an anti-leak barrier for preventing leakage from the edge of the absorbent product, and thus, Suzuki, et al. actually teaches away from using a flat, planar absorbent structure. As Suzuki, et al. fail to teach or suggest an absorbent structure that lies flat in the dry state, and further, there is no suggestion to modify Suzuki, et al., one skilled in the art would simply not have a reason to modify the Suzuki, et al. reference to arrive at the absorbent structure of Applicants' claims 1 and 41.

With regards to the dependent claims, the Office attempts to find each and every limitation of Applicants' claimed invention by combining the Suzuki, et al. reference with the Carlucci, et al. reference.

C. Carlucci, et al.

Carlucci, et al. is directed to a disposable absorbent article, which is substantially flat prior to use for wearing

irregularity (i.e., thickness of crevice) at the time of un-absorbing water (i.e., dry state) is desirably 0.2 mm - 2.0 mm."

adjacent a body discharge area, having a body facing surface and a garment facing surface. The absorbent core of the article includes an expanding layer and a separate, substantially non-expanding absorbent element joined together. The expanding layer expands the article into a tridimensional structure once activated by body fluids (i.e., once wetted). The expansion preferably takes place in a direction that goes from the garment facing surface towards the body facing surface of the absorbent article; particularly preferred are tridimensional structures with a **convex upward configuration** (emphasis added) that are inclusive of inverted U-shapes or inverted V-shapes.⁷ The expanding layer further includes apertures in its body facing surface and/or in its garment facing surface.

C. The Claimed Subject Matter is Not Obvious

As set forth in M.P.E.P. §2143, in order for the Office to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) the prior art references, when combined, must disclose each and every element of the claim; (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the references; and (3) there must be some reasonable expectation of success. An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. The common sense of those skilled in the art can demonstrate why some

⁷ Carlucci, et al. at column 6, lines 38-43.

modifications and/or combinations would have been obvious where others would not.⁸ As noted in the Examination Guidelines For Determining Obviousness Under 35 U.S.C. §103(a) in view of the Supreme Court decision in KSR Int'l Co. v. Teleflex, Inc., et al.,⁹ the Office must provide an explanation to support any obviousness rejection. Applicants respectfully submit the Office has failed to establish a *prima facie* case of obviousness because (2) there is simply no apparent reason or suggestion to combine or modify the cited references to arrive at the claimed subject matter and (3) there is simply no reasonable expectation of success if the references are combined.

Applicants submit that there is no apparent reason to combine the Suzuki, et al. reference with the Calucci, et al. reference. More specifically, such a combination of references will frustrate the desired intent of the Suzuki, et al. reference, and as such, a close reading of the Calucci, et al. reference actually teaches away from such the combination of references.

Particularly, as noted above, Suzuki, et al. teach forming **concave crevices** to provide anti-leak protection in absorbent products. By contrast, Calucci, et al. teach a substantially flat absorbent article when in the dry state that expands when wetted and forms a **convex upward configuration** to provide close contact with the body surface and improved absorption of bodily fluids. Thus, one skilled in the art would have no reason to modify Suzuki, et al.,

⁸ Leapfrog Enterprises, Inc. v. Fisher-Price, Inc., No. 06-1402 (Fed. Cir. May 9, 2007); See also KSR Int'l Co. v. Teleflex, Inc., et al., 550 US _____, 2007 WL 1237837 at 12 (2007).

⁹ 550 US _____, 2007 WL 1237837 at 12 (2007).

which is directed to forming a **concave-creviced article**, with the expanding layer of Calucci, et al., which expands in a **convex upward configuration**. Such a combination of references is simply not reasonable.

In view of the foregoing, Applicants respectfully submit that the Office has failed to meet its burden in establishing a *prima facie* case of obviousness, because motivation is simply not provided by the combination of Suzuki, et al. and Calucci, et al. references to prepare an absorbent structure as recited in claims 1 and 41, from which claims 3, 7, and 9-15 directly or indirectly depend. Accordingly, reconsideration of the rejection of claims 1, 3, 7, 9-15, and 41 is respectfully requested.

With respect to independent claims 17, 30, 42, and 43, Applicants assert that the Suzuki, et al. reference, alone or in combination with the Calucci, et al. reference, fails to teach or suggest each and every limitation of the claimed invention, and thus claims 17, 30, 42, and 43 (and dependent claims 20-22, 24-26, 28, 29, and 38-40) are patentable over the cited references.

Specifically, as acknowledged by the Office in the Interview of December 17, 2007, neither Suzuki, et al. nor Calucci, et al. disclose an absorbent structure having an absorbent layer that includes polyurethane foam. Specifically on page 2, paragraph [0013] of Suzuki, et al., materials for the absorbent P sheet are provided, however, no where is it taught or suggested that the P sheet can include polyurethane foam. Similarly, Calucci, et al. teach regenerated cellulose sponges and related materials for their expanding layer in columns 10-11, lines 36-53. No where,

however, is it taught or suggested to use polyurethane foam in the expanding layer. As neither cited reference discloses each and every limitation of Applicants' claims 17, 30, 42, and 43, and further, there is no apparent reason to modify the references to arrive at each and every limitation, independent claims 17, 30, 42, and 43, and their dependent claims, claims 20-22, 24-26, 28, 29, and 38-40, are patentable over the cited references.

2. Reconsideration is requested of the rejection under 35 U.S.C. §103 of claims 7, 8, 18, 19, and 30-36 as being obvious over Suzuki, et al.

Claims 7, 8, 18, 19, and 31-36 depend from independent claims 1, 17, and 30, respectively, which are described above. As such, claims 7, 8, 18, 19, and 31-36 are patentable over Suzuki, et al. for the same reasons as their corresponding independent claims set forth above, as well as for the additional elements they require. Claim 30 is patentable over Suzuki et al. for the same reasons as set forth above.

Furthermore, while grounds for the rejection have been provided for claim 10, it has not been listed in the heading as being rejected. Applicants assume this was a typographical error. Claim 10 depends from independent claim 1, which is described above. As such, claim 10 is patentable over Suzuki et al. for the same reasons as independent claim 1 set forth above, as well for the additional elements which is provides.

3. Reconsideration is requested of the rejection under 35 U.S.C. §103 of claims 11, 12, 27, and 37 as being obvious based on the combination of Suzuki, et al. in view of Calucci, et al.

Claims 11 and 12 depend from independent claim 1. Claims 27 and 37 depend from independent claims 17 and 30, respectively. As such, claims 11, 12, 27, and 37 are patentable over the combination of Suzuki, et al. and Calucci, et al. for the same reasons as claims 1, 17, and 30 set forth above, as well as for the additional elements they require.

III. Claims 44-46

Claims 44-46 depend from independent claims 1, 17, and 30 and are patentable over the cited art for the same reasons as claims 1, 17, and 30 as set forth above, as well as for the additional elements they require. Applicants note that grounds of rejection have not been provided for claims 44-46.

CONCLUSION

The Commissioner is hereby authorized to charge any government fees which may be required to maintain the pendency of this application to Deposit Account No. 01-2384.

Respectfully Submitted,

/Richard L. Bridge/

Richard L. Bridge, Reg. No. 40,529
Armstrong Teasdale, LLP
One Metropolitan Square, 26th Floor
St. Louis, Missouri 63102
314-621-5070

RLB/AGH